

# UNCOMPLICATED MIDVAGINAL VESICO-VAGINAL FISTULA REPAIR IN IBADAN: A COMPARISON OF THE ABDOMINAL AND VAGINAL ROUTES

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## ABSTRACT

**Background:** Obstetric fistula is a resultant effect of prolonged obstructed labour. The best surgical management of simple uncomplicated fistula determines the outcome of care.

**Objective:** To compare outcome of uncomplicated mid-vaginal fistula between vaginal and abdominal route of repair.

**Materials and Method:** This was a hospital based retrospective study conducted at the University College Hospital, Ibadan from January, 2000 till December, 2006.

**Result:** Of the 71 midvaginal fistulae managed, 40.8% had abdominal repair while the remainder were through vaginal approach. The overall repair success rate was 79.2% with comparable outcome in both groups-78.3% for the abdominal and 80% for the vaginal group ( $p=0.999$ ). The duration of hospital stay did not differ significantly between the groups ( $p=0.972$ ). Post operative complications were found in 41.4% of the abdominal group compared to none in the vaginal group ( $p<0.001$ ). The complications were failed repair (20.7%) and urinary tract infection (20.7%). The mean estimated blood loss was 465.5ml in the abdominal group compared to 332.9ml for the vaginal group ( $p=0.303$ ).

**Conclusion:** Despite the comparable surgical repair outcome of the two methods, the vaginal approach is associated with lesser blood loss and lower risk of post-operative complications. It is recommended that the vaginal route should be employed in the repair of uncomplicated midvaginal fistula unless there are other compelling reasons to the contrary.

**Keywords:** *Mid-vaginal vesico-vaginal fistula, urinary incontinence, vaginal/abdominal surgical methods, Nigeria*

## INTRODUCTION

Obstetric fistula is a resultant effect of prolonged obstructed labour, an aftermath of a poorly supervised childbirth<sup>1-3</sup>. It has been reported as a neglected public health issue in the world<sup>4</sup>. Surgical expertise for managing this challenging medical condition is dwindling even in countries with many cases like Nigeria<sup>5</sup>. Moreover, there is also lack of dedication amongst medical personnel such nurses, anaesthetists and other related staffs. These deficiencies have frustrated the hope of eradicating this scourge in many developing countries.

The route of repair of vesico-vaginal fistula is usually at the surgeon's decision mostly informed by findings after examination under anaesthesia, and the background training and skills of the surgeons<sup>6</sup>. Urologists usually perform the fistula repair irrespective of site and size through abdominal route while most

gynaecologists prefer the vaginal route<sup>7</sup>. Although studies have shown comparable success rate in terms of repair outcomes on the two methods of repair<sup>6,8</sup>, there is the need to select the best approach depending on the type, size and site of the fistula<sup>10</sup>.

Abdominal approach of repair is mostly performed under general anaesthesia to achieve optimal relaxation<sup>11</sup>. However, this may be associated with many complications as well as the risk of damage to other structures such as the bowel loops, major blood vessels. Vaginal approach can be easily performed using regional or even by local infiltrative anaesthetic technique especially in well selected simple fistula<sup>12,13</sup>. The benefit of this approach includes early resumption of oral feeding, lesser risk of anaesthetic complications and a drastic reduction of cost of surgery. In spite of these

benefits, vaginal approach is often constrained by limited operating space.

Mid-vaginal fistula is the commonest variety of obstetric vesico-vaginal fistula. In this type, the urethral sphincters are spared especially in simple/uncomplicated cases. On many occasions, pin-hole and uncomplicated fistula could be managed conservatively with appreciable success using continuous urethral catheterization for about 6-weeks<sup>14</sup>.

This study attempts to audit all cases of uncomplicated midvaginal fistulas seen at the gynaecological clinic of the University College Hospital, Ibadan over a period of seven years by comparing the outcome of repair between vaginal and abdominal approach.

## MATERIALS AND METHOD

This was a hospital based retrospective study of patients that were managed at the University College Hospital, Ibadan on account of uncomplicated mid-vaginal vesico-vaginal fistula due to obstetric aetiology from January, 2000 to December, 2006. This tertiary public health institution serves as the topmost referral centre for genitourinary fistula surgery in the south-western region of Nigeria, as well as providing leadership for capacity building and training of specialists that are interested in acquiring the skills.

The case records of women that presented with genitourinary fistula at the gynaecological clinic of the UCH were retrieved. Only those with uncomplicated mid-vaginal fistula as indicated on either the examination under anaesthesia or surgical repair operation note were selected. Where there are discrepancies in diagnosis, the surgical operative note was used for categorization of the fistula. The inclusion criteria were mid-vaginal fistula with no fibrosis or evidence of infection, lack of urethral or bladder neck involvement and not more than one previous repair attempt<sup>15</sup>. The following information were obtained from each of the selected patient's medical records; sociodemographic data, duration of urinary incontinence, number of previous repairs, presence of rectovaginal fistula, type of VVF, mode of repair (Abdominal or vaginal route), surgeon's status and specialization, presence of post operative complication, estimated blood loss and duration of hospital admission.

The entire patients that had their repair during the study period were given postoperative prophylactic antibiotics parenterally for at least 48 hours and they were followed up with oral preparation of the same antibiotics for about 5 – 10 days. Urinary continence at discharge was used as a measure of successful repair.

At least 2 follow-up visits at 4 weeks and 3 months postoperatively were checked to validate the repair outcome.

Data were obtained using a structured proforma. The statistical analysis was performed with SPSS 11 software. Bivariate analysis was performed using Chi-square and Mann Whitney U tests. Fisher's exact test was reported when expected counts in any cells on cross tabulations were less than five. The level of statistical significance was set at 5%.

## RESULTS

Seventy one cases of midvaginal fistulae were seen during the period. The mean age of the women was 33.1 years (SD=15.2). About two thirds were married (66.2%), a quarter were unmarried (25.4%) while the remainder (8.5%) were widowed. The highest educational status was secondary. They were predominantly traders (32.4%). Others were artisans (33.8%) while about 17% were unemployed. The median duration of incontinence was 30 months. About two thirds had had one previous delivery only. The abdominal route of repair was used in 29(40.8%) and vaginal in the remainder. General anaesthesia was used for all that had abdominal repair while those that had vaginal route of repair had regional anaesthesia – spinal (85.7%), epidural (4.8%) and local infiltrative in 9.6%. Two patients among those that had abdominal approach were transfused with blood. None was transfused among the vaginal approach group.

Table 1 shows the baseline characteristics, pre-operative clinical variables and outcomes of repair for the two groups of women. Women in the abdominal group were significantly older ( $p=0.012$ ) and had a significantly higher number of previous deliveries ( $p<0.001$ ) than those who had vaginal repair. The groups were not significantly different concerning duration of incontinence though the abdominal group appeared to present earlier ( $p=0.503$ ). Fistula sizes were similar between the groups with mean diameters of 4.6cm and 3.5cm for the abdominal and vaginal routes respectively ( $p=0.126$ ). Only vaginal repair group had associated rectovaginal fistula (RVF) in 14.3% of them ( $p=0.075$ ). None of the women in the abdominal group had had a previous repair compared to about 28.6% of those in the vaginal group ( $p=0.005$ ). All the women in the abdominal group had general anaesthesia compared to 20.7% of those in the other group ( $p<0.001$ ).

The overall success rate was 79.2% which was almost equal in both groups-78.3% for the abdominal route and 80% for the vaginal group ( $p=0.999$ ). The duration of hospital stay did not differ significantly between

Characteristics and Preoperative clinical variables	Abdominal (n=29)	Vaginal (n=42)	Test statistic	P**
Median age (years) (Lowest – Highest)	31(20-80)	27(22-30)	396*	0.012
Median number of deliveries (range)	2(6)	1(0)	252*	0.000
Median duration of incontinence in months (range)	17(352)	42(70.5)	552*	0.503
Mean fistula size (cm) (median)	4.5(4.0)	3.5(4.0)	264*	0.126
General anaesthesia (%)	100.0	20.7	49.27 <sup>+</sup>	<0.001
Associated Rectovaginal fistula (%)	0.0	14.3		0.075(FET)
Previous repair (%)	0.0	28.6		0.005(FET)
<b>Outcomes</b>				
Mean estimated blood loss (median)	465.5(300)	332.9(300)	522*	0.303
Median duration of hospital admission in days (range)	25(15)	24(44)	606*	0.972
Post operative complications (%)	41.4	0.0		<0.001(FET)
Success rate (%)	78.3	80.0		0.999(FET)

**Table 1:** Baseline characteristics and outcomes by route of repair

\*Mann Whitney U test used for comparison

\*\*Fisher's exact test

+ Chi square test used as significance test

the groups (p=0.972). Post operative complications were found in 41.4% of the abdominal group compared to none in the vaginal group (p<0.001). The complications were failed repair (20.7%) and urinary tract infection (20.7%). The mean estimated blood loss was 465.5ml in the abdominal group compared to 332.9ml for the vaginal group though the median blood loss was the same in both groups (p=0.303).

## DISCUSSION

Eradication of obstetric fistulae has remained a herculean task especially in the area of surgical repair. Use of simple effective surgical and anaesthetic methods will facilitate better access to care for fistula victim that are often embroil with poverty and social annihilation<sup>16</sup>.

In this study, the median duration of urinary incontinence prior to presentation and mean diameter of the fistula size were similar in both groups. These similarities offers opportunity for objective comparism as both factors have direct impact on outcome of repair. Longer duration of urinary incontinence predisposes to infection and subsequent tissue fibrosis that may result in poor healing<sup>17</sup>. Also, larger fistulae are usually accompanied by poorer outcome due to difficulty in tissue mobilization during surgical repair. The women managed differed significantly in median age at presentation, parity, methods of anaesthesia and previous repair attempt. In addition, there is associated rectovaginal fistula among those that had vaginal repair. Of all the observed differences among patients managed in both groups, presence of rectovaginal fistula and previous repair attempt has been shown to have significant influence on the outcome of repair. RVF predisposes to fecal soilage and subsequent

infection of the operation site. Temporary fecal diversion with colostomy and two-stage repair is often routinely performed to prevent this complication. Recently, Ojengbede *et al.* have demonstrated that one stage repair of combined fistula is feasible when appropriate precautionary measures such as adequate bowel preparation; rectal washout and surgical expertise are employed<sup>18</sup>. The pattern of repair – whether one or two stage, were not considered for analysis in this study. The number of repair attempts is one of the key determinants of the genitourinary fistula surgery outcome because of the associated fibrosis from previous healing<sup>19</sup>. In this study, about 14.3% and 28.6% of women with vaginal repair had associated RVF and previous repair attempt respectively. Despite these limitations, comparable successful outcome were recorded. One factor that may confound this observation is the skill and experience of the surgeons which will be difficult to objectively analyse.

Of recent, fistula experts are making spirited efforts in ensuring accessible and affordable treatments to victims without compromising both ethical and surgical standards<sup>20</sup>. Use of simple, effective and cheap anaesthesia is one of such strategies that have drastically cut down the cost of care<sup>12</sup>. All women that had abdominal approach were offered general anaesthesia during the study period. This anaesthetic technique would have added to the financial burden. Regional anaesthesia such as subarachnoid and epidural block could be used but, none among those in abdominal repair had these methods. All women among the vaginal repair group had all forms of regional anaesthesia including local infiltrative anaesthetic agent.

On the outcome of repair, there were comparable average surgical blood loss, median duration of hospital stay and post operative incontinence between the two methods of repair. In spite of these similarities, women that had abdominal repair bled more in excess of about 130ml and stayed longer by a day compared to those with vaginal method. The differential blood loss may appear insignificant in well nourished individual but, such loss could adversely affect fistula patients that are usually poorly fed and anaemic. In addition, two women had blood transfusion in the abdominal approach group. They are therefore at risk of transfusion reactions and infections. Only women with abdominal repair suffered post operative complications. The pattern of complications was urinary tract infection and failed repair. The higher infection rate may be due to extensive bladder dissection and mobilization of surrounding tissues; this may have affected the tonicity of the muscle after surgery. The failed repair attempt may not necessarily

be as a result of the route of repair but may be due to other confounding issues such sub-clinical infection, skill of the surgeon and difficulty tissue mobilization at surgery.

From this audit, one can argue that choice of repair route does not have significant effect on the overall success of the outcome as there was no appreciable difference. Overall, 78.3 percent and 80.0 percent success were recorded in abdominal and vaginal route of repair.

In conclusion, vaginal repair of mid-vaginal VVF is associated with lesser blood loss and post operative complications despite the compared characteristics of patients managed. Use of regional anaesthesia including local infiltrative technique provides ray of hope for fistula victims that often suffer delayed care from large number of patients awaiting surgery as this method could be performed by either the surgeon or other accompanying health care personnel especially in centres with dearth of capacity. It is therefore recommended that as much as feasible, vaginal route should be employed in the repair of uncomplicated midvaginal fistula unless there are other compelling reasons to the contrary.

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